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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual Name	McAndrews Held & Malloy, Ltd.		
Name (Print/type)	Christopher N. George	Registration No. (Attorney/Agent)	51,728
Signature			Date: March 18, 2005

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Docket No. 15-IS-5298 (12528US01)

In the Application of:

Patel et al.

U.S. Serial No.: 09/472,290

Filed: December 27, 1999

For: Web-Based Apparatus and Method for
Enhancing and Monitoring Picture
Archiving and Communications Systems

Examiner: Mary J. Steelman

Group Art Unit: 2122

CERTIFICATE OF MAILING

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Christopher N. George
Reg. No. 51,728

BRIEF ON APPEAL

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Sir:

This is an appeal from an Office Action dated September 23, 2004, in which claims 1-20 were finally rejected. An Advisory Action dated January 4, 2005, maintained the rejection of claims 1-20 but entered an amendment to claim 11 for purposes of appeal. This Appeal Brief is being submitted in support of the Notice of Appeal filed on January 20, 2005, and is being submitted within the two-month time period for response. The Applicant respectfully requests that the Board of Patent Appeals and Interferences reverse the final rejection of claims 1-20 of the present application. Pursuant to 37 CFR § 1.17(c), the fee for filing this brief is \$500, to be charged to the Deposit Account of GTC, 070845.

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REAL PARTY IN INTEREST

General Electric Company, a corporation organized under the laws of the state of New York, and having a place of business at 1 River Road, Schenectady, New York 12345, has acquired the entire right, title and interest in and to the invention, the application, and any and all patents to be obtained therefor, as set forth in the Assignment filed with the present application and recorded on Reel 010504, frame 0001.

RELATED APPEALS AND INTERFERENCES

There currently are no appeals pending regarding related applications.

STATUS OF THE CLAIMS

Claims 1-20 are pending in the present application. Pending claims 1-20 have been rejected under 35 U.S.C. § 103(a) and are the subject of this appeal. Specifically, claims 1-4, 11-13, and 19-20 have been rejected under 35 U.S.C. § 103(a) as unpatentable in view of U.S. Patent No. 6,178,225 to Zur et al., U.S. Patent No. 6,094,531 to Allison et al., and U.S. Patent No. 6,321,348 to Kobata. Claims 5-10 and 14-18 have been rejected under 35 U.S.C. § 103(a) as unpatentable in view of U.S. Patent No. 6,178,225 to Zur et al. and U.S. Patent No. 6,321,348 to Kobata.

STATUS OF THE AMENDMENTS

An amendment to pending claim 11 was filed after final rejection to correct a typographical error in the claim. The amendment was entered by the Examiner for purposes of appeal. There are no other amendments pending in the present application.

SUMMARY OF THE INVENTION

The present invention relates to a system and method for remotely enhancing and monitoring a Picture Archiving and Communication System (PACS). PACS are used for storing, observing and analyzing images obtained in medical applications. PACS servers and workstations may be found in hospitals, clinics or laboratories, for example. PACS

servers and workstations often encounter software bugs that need to be fixed. Additionally, rapid improvements in image viewing and analysis software often prompt users to request software updates on site. Such on-site error correction and software installation or patching may be very costly and time-consuming. For example, the amount of a field engineer's time taken to install software or software upgrades may be represented as $(T * N) + X + Y * (N - 1)$, where T is the time to install the software, N is the number of computers to be upgraded, X is the time taken for the field engineer to travel to and from the site, and Y is the average time taken for the average time taken for the engineer to go from one computer to another. Additionally, it is very costly and time-consuming for the field engineer to trouble-shoot errors occurring at individual workstations. Prior Picture Archiving and Communication Systems have not provided a system or method which reduces the high cost and time-consuming effort to install software and trouble-shoot errors on individual PACS workstations.

Certain embodiments of the present invention provide a system 200 and method 400 for remotely enhancing a PACS 200 by simultaneously installing software to a plurality of PACS workstations 210 via a network 204, such as an Internet connection. A web-based server 206 including an installer 208 is used to simultaneously install software to the plurality of PACS workstations 210. A remote terminal 202 communicates with the web-based server 206 to control functionality at the web-based server 206. Referring to Figure 4, the method 400 for remotely enhancing a PACS 200 establishes (step 402) a network connection 204 between the remote terminal 202 and the web-based server 206. A user may log on (step 403) to the web-based server 206 and be authenticated. The user at the remote terminal 202 may make available software or a software patch for installation to the PACS workstations 210. Then, the web-based server 206 is directed (step 404) by the user to simultaneously install (step 406) software to the plurality of PACS workstations 210. Once software installation is complete, the web-based server 206 may be configured to send (step 408) a message to the remote terminal 202, indicating whether the software installation was successful.

As a result, the time to install software on a PACS workstation 210 is reduced from $(T * N) + X + Y * (N - 1)$ to $T + X + Y$, where T is the time taken to install the software, N is the number of workstations 210 to be upgraded, X is the time it takes the

remote terminal 202 to copy the file(s) to the web-based server 206, and Y is the sum of time it takes for the web-based server 206 to copy the files to the workstations 210. Once the files are copied to the workstations 210, the installer 208 may then simultaneously install the files to the workstations 210, resulting in considerable savings of time, money, and resources.

Certain embodiments of the present invention provide a system 300 and method 500 for remotely monitoring a PACS 300 via a network 204 such as the Internet. A web-based server 206 including a retriever 302 is used to monitor the PACS 300 for errors or to search, extract, or download files of interest. Referring to Figure 5, a method 500 for remotely monitoring a PACS 300 establishes (step 402) a network connection 204 between a remote terminal 202 and a web-based server 206. The web-based server 206 is directed by the remote terminal 202 to retrieve (step 502) data, such as image or log files, from at least one PACS workstation 210. The web-based server 206 is then directed to search (step 503) for an error indication in the retrieved data. The web-based server 206 retrieves the data (step 504) and extracts a file (step 505) for analysis to identify an error. The data is transmitted (step 506) to a remote terminal 202. The error is determined at the remote terminal 202 and corrected remotely via the web-based server 206. For example, software may be periodically updated (step 507) in response to an error detected at least one PACS workstation 210.

Thus, certain embodiments of the present invention provide a system and method for remotely monitoring and updating a picture archiving and communication system with a plurality of workstations by periodically providing software for installation and by monitoring the workstations for errors, identifying the errors, and downloading software patches to correct those errors.

ISSUES FOR REVIEW

I. Are claims 1-4, 11-13, and 19-20 unpatentable under 35 U.S.C. § 103(a) in view of U.S. Patent No. 6,178,225 to Zur et al., U.S. Patent No. 6,094,531 to Allison et al., and U.S. Patent No. 6,321,348 to Kobata?

II. Are claims 5-10 and 14-18 unpatentable under 35 U.S.C. § 103(a) in view of U.S. Patent No. 6,178,225 to Zur et al. and U.S. Patent No. 6,321,348 to Kobata?

GROUPING OF CLAIMS

The claims do not stand or fall together.

Claims 1-4, 11-13, and 19-20 stand or fall together.

Claims 5-10 and 14-18 stand or fall together, and are believed to be separately patentable from claims 1-4, 11-13 and 19-20, as will be explained in the following argument section.

For the sake of simplicity, Applicant has elected to only argue the substantive merits of the patentability of independent claims 1, 5, 11, 14, 17, and 19. If any of these claims are deemed patentable, then the claims dependent thereon must also be deemed patentable.

ARGUMENT

I. For Obviousness, The Law Is Well Settled That There Must Be A Suggestion Or Motivation To Combine References.

The law is well settled that “obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion or incentive to do so.”¹ Additionally, the Examiner is not permitted to use an improper hindsight reconstruction of the claimed invention in rejecting the claims. Use of hindsight analysis has been specifically condemned by the Federal Circuit:

The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification ... Here, the Examiner relied upon hindsight to arrive at the determination of obviousness. It is impermissible to use the claimed invention as an instruction manual or “template” to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This Court had previously stated that “one cannot use hindsight reconstruction to pick

¹ *ACS Hospital Systems, Inc. v. Montfiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929 (Fed. Cir. 1984).

and choose among isolated disclosures in the prior art to deprecate the claimed invention.”²

When a prior art reference must be modified to show a claimed invention, the prior art must suggest the modifications in order to make the claims obvious under 35 U.S.C. § 103.³ The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on the applicant’s disclosure.⁴

It is not permissible to pick and choose among the individual elements of assorted prior art references to re-create the claimed invention, but rather “some teaching or suggestion in the references to support their use in the particular claimed combination” is needed.⁵ That is, in order to combine two or more prior art references to make claims obvious under 35 U.S.C. § 103, the prior art references must suggest the combination of their teachings.⁶ In *Ex parte Hiyamazi*⁷, the Board of Patent Appeals and Interferences reversed a rejection based on a combination of references, stating, in part:

Under 35 USC § 103, where the Examiner has relied upon the teachings of several references, the test is whether or not the reference viewed individually and collectively would have suggested the claimed invention to the person possessing ordinary skill in the art. Note *In re Kaslow*, 707 F.2d 1366, 107 USPQ 1089 (Fed.Cir. 1983). It is to be noted, however, that citing references which merely indicate the isolated elements and/or features recited in the claims are known is not a sufficient basis for concluding that the combination of claimed references would have been obvious. That is to say, there should be something in the prior art or a convincing line of reasoning in the answer suggesting the desirability of combining the claimed

² *In Re John Fritch*, 972 F.2d 1260, 23 U.S.P.Q. 2d 1780, 1783 (Fed. Cir. 1992). See also *Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1135, 1143 n.5, 229 U.S.P.Q. 182, 187 n.5 (Fed.Cir. 1986); MPEP 2141.

³ *ACS Hospital Systems*, 732 F.2d at 1577.

⁴ *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q. 2d 1438 (Fed. Cir. 1991).

⁵ *Symbol Technologies, Inc. v. Opticon, Inc.* 935 F.2d 1569, 1576, 19 U.S.P.Q.2d 1241 (Fed. Cir. 1991).

⁶ *ACS Hospital Systems*, 732 F.2d at 1577.

⁷ *Ex parte Hiyamazi*, 10 U.S.P.Q.2d 1393 (Bd. Pat. App. & Interf. 1988).

invention. Note *In re Deminski*, 796 F.2d 436, 230 USPQ 313 (Fed.Cir. 1986).⁸

The law also is very clear that a finding of obviousness can only be premised on prior art references from analogous areas of art and not on art from nonanalogous areas. Specifically, the Federal Circuit has applied the following two-step test:

The determination that a reference is from a nonanalogous art is therefore twofold. First, we decide if the reference is within the field of the inventor's endeavor. If it is not, we proceed to determine whether the reference is reasonably pertinent to the particular problem with which the inventor was involved.⁹

II. Claims 1-4, 11-13, and 19-20 are patentable under 35 U.S.C. § 103(a) in view of Zur (U.S. 6,178,225), Allison (U.S. 6,094,531), and Kobata (U.S. 6,321,348).

In the Final Office Action of September 23, 2004, the Examiner rejected claims 1-4, 11-13 and 19-20 under 35 U.S.C. 103(a) as being unpatentable over Zur (U.S. Patent 6,178,225), Allison (U.S. Patent 6,094,531), and Kobata (U.S. Patent 6,321,348). 35 U.S.C. 103(a) states:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

To render a claim obvious, there must be some suggestion or motivation to combine the references.¹⁰ Additionally, there must be a reasonable expectation of success.¹¹ Finally, the combined references must teach or suggest all the claim limitations.¹²

Pending independent claims 1, 11, and 19 read as follows.

⁸ *Id.* at 1394.

⁹ *In re Deminski*, 796 F.2d 436 (Fed. Cir. 1986).

¹⁰ M.P.E.P. § 706.02(j) (May 2004).

¹¹ *Id.*

1. A method for remotely enhancing a picture archiving and communication system, said method comprising:

establishing a network connection with a web-based server;
periodically providing software for installation to a plurality of picture archiving and communication system workstations in response to an error detected by at least one workstation;

reporting the error to the web-based server;
directing the web-based server to simultaneously install the software to the plurality of picture archiving and communication system workstations in communication with the web-based server; and
simultaneously installing software to the plurality of picture archiving and communication system workstations.

11. An apparatus for remotely enhancing a picture archiving and communication system comprising:

a remote first terminal in communication with a web-based server via an Internet connection, said remote first terminal remotely monitoring a picture archiving and communication system workstation to generate a remote signal requesting installation of software in response to an error reported by the workstation;

a plurality of picture archiving and communication system workstations connected to said web-based server; and

said web-based server comprising an installer for simultaneously installing software to said plurality of picture archiving and communication system workstations responsive to said remote signal.

19. A method for remotely enhancing a picture archiving and communication system, said method comprising:

connecting to a web-based server from a remote terminal on the Internet;
instructing the web-based server to update pre-existing software on a plurality of picture archiving and communication system workstations in communication with the web-based server;

simultaneously updating said pre-existing software on the plurality of picture archiving and communication system workstations.

A. Claims 1-4, 11-13 and 19-20 are patentable under 35 U.S.C. § 103(a) in view of Zur (U.S. 6,178,225), Allison (U.S. 6,094,531) and Kobata (U.S. 6,321,348) because there is no suggestion or motivation in the references or the ordinary level of skill in the art to combine Zur, Allison, and Kobata.

Zur (U.S. Patent No. 6,178,225)

Zur is the foundational reference relied upon by the Examiner in rejecting claims 1-20 throughout the examination of the present application. In the Final Office Action of

¹² *Id.*

September 23, 2004, the Examiner states that Zur may be part of a Picture Archiving and Communication System (PACS).¹³ The Examiner also relies on the fact that Zur has “internet connectivity” to allege its relevance.¹⁴ However, the Examiner admits that Zur does not teach a method to simultaneously install software to a plurality of PACS workstations. The Examiner also admits that Zur does not disclose detecting or reporting an error to a web-based server.¹⁵

The Applicant submits that Zur is directed to metering x-ray image exposures for billing purposes.¹⁶ Mr. Zur and his co-inventors have tried to improve the process of billing or charging users for the use of x-ray services based on charging for usable x-ray images and not charging for x-ray images that cannot be used for diagnosis. That is, Zur seeks to reduce the fees charged to those using a digital X-ray imaging system by billing them only for “accepted” or usable images and not for “rejected” or unusable images.¹⁷ The service center of Zur then generates and distributes billing statements to users.¹⁸ A thorough review of Zur shows that the Zur patent simply does not mention identifying errors, correcting errors, installing software, or updating software.

The “management” and “installation” of x-ray imaging facilities and services disclosed by Zur is quite clearly a reduction of costs to a user through metering of usable and unusable images and generation of billing output.¹⁹ The “service” center of Zur is a billing service center for generating bills and statements for x-ray imaging customers.²⁰ It is illustrative of the narrow focus of Zur that Zur does not even discuss improving image quality or imaging system performance but, rather, purely focuses on billing and generating usable and unusable exposure reports. In fact, it is difficult to read a paragraph in the Zur patent and not find a mention of ***metering*** or ***billing*** for usable images.

¹³ Final Office Action mailed May 19, 2004, page 2, referring to column 4, line 38 of Zur.

¹⁴ *Id.* at pages 2-3, referring to column 4, lines 53-54 of Zur.

¹⁵ *Id.* at page 4.

¹⁶ Zur, Abstract and column 1, lines 43-50.

¹⁷ See, e.g., Zur, column 5, lines 43-65.

¹⁸ Zur, column 5, lines 30-33.

¹⁹ See Zur, Background and Summary, for example, column 1, lines 5-67, column 2, lines 1-67, and column 3, lines 1-3.

²⁰ Zur, column 6, lines 5-17.

The service center of Zur preferably receives usage statistics from digital X-ray imaging facility metering systems via the Internet.²¹ That is, the service center is accessed by imaging facilities, and the service center then generates bills based on the image usage statistics received from facility metering systems.²² Alternatively, Zur mentions that the service center may electronically poll individual imaging facility metering systems to obtain usage statistics.²³ Simply stated, Zur is concerned with accurate and efficient billing of users of x-ray imaging facilities based on an actual number of accepted images as opposed to a total number of images taken.

No error correction, error analysis, or software update functionality is mentioned or envisioned in the disclosure of Zur. Zur includes no mention of even an image quality improvement system or method, let alone a system or method that diagnoses and corrects errors or updates software in a picture archiving and communication system itself, such as the system and method claimed in the present application. Thus, Zur is a nonanalogous and inapplicable reference upon which to base a rejection of the claimed invention under 35 U.S.C. § 103 or § 102.

Allison (U.S. Patent No. 6,094,531)

To the metering and billing system of Zur, the Examiner attempts to combine an operating system testing environment described in Allison.²⁴ The Examiner asserts that Allison teaches a method for automatic simultaneous installation on a plurality of machines/terminals/workstations/clients.²⁵ However, the Applicant submits that, in fact, Allison relates to an experimental computer testing platform for testing software on test computers.²⁶ Allison neither mentions nor has any logical relationship to a medical environment or to a picture archiving and communication system (PACS), which, by definition and as described in the present application, is a medical system used in a

²¹ Zur, column 5, lines 19-29.

²² Zur, column 5, lines 30-34.

²³ Zur, column 6, lines 42-50.

²⁴ Final Office Action mailed May 19, 2004, pages 3-4.

²⁵ *Id.*, at page 3, referring to Figure 1 and column 4, lines 43-48 of Allison.

²⁶ Allison, Abstract, column 2, lines 25-29, column 3, lines 60-67, and column 4, lines 10-22.

medical environment. Additionally, as the Examiner acknowledges, Allison makes no mention of error detection or correction.²⁷

When software or hardware needs to be tested, Allison looks for an available test machine.²⁸ When a test machine becomes available, the dispatcher machine is notified which machine is available for a test.²⁹ The dispatcher machine determines whether one or more of the tests needed to be run are capable of being performed by the test machine.³⁰ If one or more of the tests are capable of being performed by the test machine, the dispatcher prioritizes the tests and instructs the test machine to perform the test with the highest priority.³¹ The test machine then performs the test.³² If no test machines are available to perform a test, the dispatcher determines which of the test machines capable of performing the test is executing the lowest priority job.³³ Then, the lowest priority job is suspended to allow the higher priority job to be executed.³⁴

The installer installs an operating system and launcher program on a test machine.³⁵ The launcher program communicates with the dispatcher machine(s) to let the dispatcher machine(s) know that the test machine is available for test.³⁶ After testing has been completed, the operating system is removed so that another operating system may be installed on the machine for a subsequent test.³⁷ In this way, operation of a new piece of software and/or hardware being developed by a computer manufacturer, such as Hewlett-Packard, may be tested under a variety of different operating systems. The operating systems and software are *temporarily* installed for testing purposes and then *removed or reset* to a base state.³⁸

The Applicant respectfully submits that it is readily apparent from the disclosure of the Allison patent that the Allison patent only discloses a computer and software

²⁷ Final Office Action mailed May 19, 2004, page 4.

²⁸ Allison, column 3, lines 11-27.

²⁹ Allison, column 3, lines 23-27.

³⁰ Allison, column 3, lines 28-34.

³¹ Allison, column 3, lines 32-39.

³² Allison, column 3, lines 39-40.

³³ Allison, column 7, lines 25-32.

³⁴ Allison, column 7, lines 32-34.

³⁵ Allison, column 4, lines 10-12.

³⁶ Allison, column 4, lines 12-22.

³⁷ Allison, Figures 4 and 5, column 10, lines 20-23, and column 12, lines 32-45.

testing system. Allison discusses a prioritized testing system involving a dispatcher machine, installer machine, and a plurality of testing machines with launcher software allowing testing of new software or hardware.³⁹ It would be unreasonable to extend the scope of the Hewlett-Packard patent beyond the computer testing system disclosed. Furthermore, there is no suggestion in the art to do so.

In the present invention, PACS workstations store valuable data and records and provide software services to users in a medical or healthcare environment. A system, such as the system described in Allison, with variable operating system installation followed by a wiping or resetting of information on that system would not be useful in such an environment. Indeed, a PACS system that was continually being reset or operated in an unstable, experimental mode would be unusable by medical professionals and would undoubtedly fail government-mandated safety inspections and regulatory approval. Additionally, simply because the PACS system of the pending claims is networked does not mean that it is analogous to the software testing system of Allison or to the metering and billing system of Zur. Thus, Allison also is a nonanalogous and inapplicable reference upon which to base a rejection of the claimed invention under 35 U.S.C. § 103 or § 102. Additionally, Allison bears no similarity or relationship to Zur and has no connection or relevance to a digital X-ray imaging facility or a metering and billing system. One of ordinary skill in the art at the time of the invention of pending claims 1-20 would not have looked to Zur or Allison and would not have combined the two references when developing the system and method of claims 1-20.

Kobata (U.S. Patent No. 6,321,348)

Then, the Examiner asserts that Kobata would have been combined with both Zur and Allison by one of ordinary skill in the art to arrive at the Applicant's claimed invention.⁴⁰ The Examiner asserts that Kobata discloses a client/server Internet based application with a system provided to detect the infrastructure at the client side.⁴¹ The Examiner asserts that Kobata automatically transmits required software to the client to

³⁸ Allison, column 12, lines 40-45.

³⁹ See, e.g., Allison, Figures 1-5.

⁴⁰ Final Office Action mailed May 19, 2004, pages 4-5.

⁴¹ *Id.* at pages 4-5, referring to Abstract and column 2, lines 42-51 of Kobata.

remotely identify problems to install new software at the client.⁴² The Examiner asserts that Kobata uses artificial intelligence at the server to filter incoming data and automatically transfer new software to the client.⁴³

The Applicant submits that Kobata discloses a system for ascertaining the demography of Internet users of personal computers (PCs) and providing software or consulting services based on the users' infrastructure data.⁴⁴ This demography data includes "CPU power, hard disk space, applications installed, network connectivity, and log-in history".⁴⁵ Kobata neither mentions nor has any logical relationship to a medical environment or to a picture archiving and communication system (PACS), which is a system used in a medical environment. Kobata is concerned with compatibility issues between computer peripherals and personal computers.⁴⁶ The Kobata system provides consulting advice to permit installation of peripherals or other personal computer equipment at the client PC.⁴⁷

Although Kobata mentions remotely identifying problems, it does so based on analysis of user demography data and log-in or access history for the individual PC.⁴⁸ That is, software serial number and user infrastructure data are used to identify compatibility problems.⁴⁹ The infrastructure data envisioned by Kobata is listed as software serial number, CPU information, IP address, CPU information, hard disk space, network connection, inventory or application list, and log-in history.⁵⁰ The system of Kobata identifies compatibility errors and refers consulting services to the client.⁵¹ Kobata specifically states that it is *important* to install client software *at* the *individual* client site.⁵² If an error requires anything other than a standard reinstall or control of the

⁴² *Id.*

⁴³ *Id.*

⁴⁴ Kobata, Abstract and column 1, lines 12-15.

⁴⁵ Kobata, Figure 1 and column 2, lines 32-34.

⁴⁶ Kobata, column 1, lines 18-41.

⁴⁷ Kobata, Abstract and column 1, lines 60-64.

⁴⁸ Kobata, column 1, lines 66-67 and column 2, lines 1-51.

⁴⁹ Kobata, column 2, lines 30-51.

⁵⁰ Kobata, column 3, lines 50-59.

⁵¹ Kobata, Abstract and column 4, lines 11-28.

⁵² Kobata, column 4, lines 19-24.

software, expert consultant services are used to analyze and correct the problem.⁵³ The very limited, few-column disclosure of Kobata leaves little room for expansion beyond the stated disclosure.

Thus, Kobata's purpose is to monitor remotely the configuration of personal computers with hardware and software configurations controlled by the end user, and download software or reconfigure individual personal computers to resolve compatibility problems. This purpose is very different from the present invention, which teaches responding to a PACS workstation error reported by a PACS workstation by simultaneously updating or installing new software on a plurality of PACS workstations. Because Kobata is focused on determining installation compatibility problems in personal computers, a person of ordinary skill in the art of medical image storage and analysis would not have looked to the PC compatibility system of Kobata in attempting to develop a remote installation and error correction system for a PACS. Therefore, as above, Kobata is yet another inapplicable and nonanalogous reference upon which to base a rejection of the claimed invention under 35 U.S.C. § 103 or § 102. Additionally, Kobata shares no common ground with either Allison or Zur and has no relationship to a medical PACS. Any system combining the teaching of Zur, Allison and Kobata would be too unstable and unpredictable to accomplish the functionality recited in claims 1-20.

Motivation to Combine?

The Applicant submits that a person of ordinary skill in the art in 1999 would not think to consider an image billing system, such as Zur, or a personal computer testing platform, such as Allison, when developing an error detection and correction system for a picture archiving and communication system in use in a healthcare environment. Zur may mention use with a PACS, but the system of Zur is not a PACS. Rather than being a "generic" installation system, Allison is a very specific testing system for installing an operating system on a testing machine, scheduling a test, and then wiping the test machine to prepare it for another test. Furthermore, one of ordinary skill in the art in 1999 would not think to utilize a compatibility-resolution system, such as Kobata, to detect and correct errors or update software in a picture archiving and communication

⁵³ Kobata, column 4, lines 19-54.

system for use with medical images in a medical environment. A system combining the teaching of Zur, Allison and Kobata would be too unpredictable to function for its intended purpose.

The limitations of the pending claims should be examined as a whole in relation to the prior art. The prior art references must also be considered as a whole and must suggest the desirability and thus the obviousness of making the combination. In addition, the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention. The Applicant maintains that one of ordinary skill in the art at the time of the invention of pending claims 1-20 simply would not have looked to Zur or Allison or Kobata, and would not have combined Zur with Allison and then combined Zur and Allison with Kobata when developing the system and method of claims 1-20.

The Examiner asserts that one of ordinary skill in the medical image storage and analysis art would have looked to Zur because it includes a PACS and would have modified Zur by Allison because Zur has a network, Allison has a network, and a PACS is networked.⁵⁴ Many systems are networked, but clearly all networked systems are not analogous to one another. Such a position would impermissibly extend the scope of networked system patents. Similarly, because an invention involves software or computing devices does not mean that any system involving software or computing devices is analogous art. Additionally, the Examiner asserts that it would have been obvious to one of ordinary skill in the art to have modified the Zur metering system which may include a PACS to include the installation and testing system of Allison and further to included the compatibility error identification system of Kobata because monitoring is well known in the art.⁵⁵ This combination is not suggested in the art and would not operate predictably enough to function for its intended purpose.

Throughout several interviews, the Examiner has maintained that the combination is “obvious” without pointing to specific examples or suggestions in the art as to why such a combination would have been obvious in 1999 (as opposed to six years later after reviewing the disclosure of the present application). When queried about whether

⁵⁴ Final Office Action mailed September 23, 2004, page 4.

Official Notice has been taken because the connections that the Examiner asserts are nowhere to be found in the cited art, the Examiner has explicitly stated that the Examiner is **not** taking Official Notice in support of any rejection.⁵⁶ Thus, the Examiner has no support for finding the alleged combination obvious and invalidating of the pending claims.

In combining Zur, Allison and Kobata, the Examiner has merely picked and chosen among isolated, individual elements of assorted prior art references in an attempt to re-create the Applicant's claimed invention. There is no teaching or suggestion in these references to support their use in the particular claimed combination. In attempting to combine these references, the Examiner has "fall[en] victim to the insidious effect of a hindsight syndrome wherein that which only the inventor has taught is used against its teacher."⁵⁷ The combination of different art found in Zur, Allison, and Kobata is clearly untenable, and the Examiner's rejection should not be allowed to stand.

B. Claims 1-4, 11-13 and 19-20 are patentable under 35 U.S.C. § 103(a) in view of Zur (U.S. 6,178,225), Allison (U.S. 6,094,531) and Kobata (U.S. 6,321,348) because even a hypothetical combination of Zur with Allison and with Kobata would not teach or suggest all of the limitations recited in claims 1-4, 11-13 and 19-20.

The Applicant submits that claims 1-4, 11-13 and 19-20 are distinguishable over Zur, Allison and Kobata for all of the reasons discussed in Section II.A of this Appeal Brief. The Applicant submits that any hypothetical combination of these systems would produce some form of an experimental x-ray testing system that includes metering and billing capabilities and compatibility testing capabilities. A user would be allowed to test, wipe, and replace the operating system software for the metering and billing system to help ensure compatibility between the meter, the service center, and the image source. Such a system is different from and does not teach or suggest the system and method described in the pending claims 1-20.

⁵⁵ Final Office Action mailed September 23, 2004, page 5; see also Advisory Action mailed January 4, 2005, pages 2-7.

⁵⁶ Advisory Action mailed January 4, 2005, page 7.

⁵⁷ *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 U.S.P.Q. 303, 313 (Fed.Cir. 1983).

The combination would not teach or suggest a method for remotely enhancing a picture archiving and communication system (PACS) including establishing a network connection with a web-based server and periodically providing software for installation to a plurality of PACS workstations in response to an error detected by one or more of the workstations. These limitations are disclosed in independent claim 1. The combination does not teach or suggest directing the web-based server from a remote terminal to simultaneously install the software to the plurality of PACS workstations and simultaneously installing the software on those workstations. Although Kobata does relate in some way to errors (peripheral compatibility problems), its purposes are very different from the present invention. Kobata is directed to analysis of demographic data such as CPU power, disk space, and applications installed to determine if compatibility problems exist and then refer a user to expert consulting services. The invention of claim 1 recites that the PACS workstation detects and report errors for correction via the web-based server from a remote terminal, while Kobata discovers installation problems (i.e., incompatibilities) based on analysis of broad demographic data at the server. There is no connection between a remote terminal, a web-based server, and a plurality of PACS workstations in Zur, Allison, or Kobata. Therefore, the Applicant respectfully submits that independent claim 1 and its dependent claims 2-4 should be in condition for allowance.

The hypothetical combination of Zur, Allison, and Kobata does not teach or suggest a system with a remote first terminal remotely monitoring a PACS workstation to generate a remote signal requesting installation of software in response to an error reported by the workstation and a web-based server including an installer for simultaneously installing software to a plurality of PACS workstations responsive to the remote signal. These limitations are recited in claim 11. Rather, Allison installs an operating system in a testing environment in order to test new products. Neither Zur nor Allison discusses identifying errors or error correction. Zur, Allison, and Kobata do not install software on a plurality of medical imaging workstations in response to a remote signal monitoring a medical imaging workstation. There is no connection between a remote terminal, a web-based server and a plurality of PACS workstations, and Zur, Allison, or Kobata.

Kobata does not detect errors in the same way or for the same purposes as the present invention. It looks for compatibility problems based on an analysis of an individual workstation's demography data, such as CPU power, hard disk space, and applications installed. Pending claims disclose locating an error message reported by the PACS software in a log file, not determination of compatibility problems through consulting services or artificial intelligence analysis of general demography data. Thus, the Applicant respectfully submits that claims 11-13 should be allowable.

In addition, the combination of Zur, Allison, and Kobata does not teach or suggest connecting to a web-based server from a remote terminal on the Internet, instructing the web-based server to update pre-existing software on a plurality of PACS workstations in communication with the web-based server, and simultaneously updating the pre-existing software on the plurality of PACS workstations. These limitations are recited in independent claim 19. Rather, Allison discusses an operating system replacement on a test machine or installation of an operating system on a blank test machine for testing purposes only. Additionally, there is no updating in Zur, Allison, or Kobata on multiple machines of software that is already on all of the multiple machines. There is no connection between a remote terminal, a web-based server, and a plurality of PACS workstations in Zur, Allison, or Kobata. Therefore, the Applicant respectfully submits that claims 19 and 20 should be allowable.

Because Zur in view of Allison and further in view of Kobata does not teach or suggest any of the limitations discussed above, let alone every limitation recited in claims 1, 11 and 19, the hypothetical combination of Zur, Allison and Kobata does not render obvious claims 1, 11 and 19, nor does it render obvious claims 2-4, 12-13 and 20, which depend from claims 1, 11 and 19, respectively.

III. Claims 5-10 and 14-18 are patentable under 35 U.S.C. § 103(a) in view of Zur (U.S. 6,178,225) and Kobata (U.S. 6,321,348).

In the Final Office Action of September 23, 2004, the Examiner rejected claims 5-10 and 14-18 under 35 U.S.C. 103(a) as being unpatentable over Zur (U.S. Patent

6,178,225) in view of Kobata (U.S. Patent 6,321,348). To render a claim obvious, there must be some suggestion or motivation to combine the references.⁵⁸ Additionally, there must be a reasonable expectation of success.⁵⁹ Finally, the combined references must teach or suggest all the claim limitations.⁶⁰

Pending independent claims 5, 14 and 17 read as follows.

5. A method for remotely monitoring a picture archiving and communication system, said method comprising:

establishing a network connection with a web-based server from a remote terminal;

directing the web-based server to retrieve data from at least one file from at least one of a plurality of picture archiving and communication system workstations in communication with the web-based server, the data including a log containing an error indicator;

retrieving the data from the at least one file;

transmitting the data to a remote terminal;

identifying an error occurring at at least one of said plurality of picture archiving and communication system workstations based on said error indicator in said data; and

updating software stored on at least one of said plurality of picture archiving and communication system workstations to correct said error.

14. An apparatus for remotely monitoring a picture archiving and communication system comprising:

a remote first terminal in communication with a web-based server via a network connection, said remote first terminal comprising a remote signal generated in response to an error detected by a picture archiving and communication system workstation;

a plurality of picture archiving and communication system workstations connected to said web-based server; and

said web-based server comprising a data retriever for retrieving data from at least one of said plurality of picture archiving and communication system workstations responsive to said remote signal, said web-based server providing remote identification and correction of an error at at least one of said plurality of picture archiving and communication system workstations by updating software stored on at least one of said plurality of picture archiving and communication system workstations.

17. A method for remotely monitoring a picture archiving and communication system, said method comprising:

connecting to a web-based server on a network;

instructing the web-based server to extract log data from each of a plurality of picture archiving and communication system workstations in communication with the

⁵⁸ MPEP § 706.02(j) (May 2004).

⁵⁹ *Id.*

⁶⁰ *Id.*

web-based server, wherein the log data indicates an error occurring at the plurality of picture archiving and communication system workstations;

transmitting the log data to a remote terminal for analysis of the error; and

remotely correcting the error at the plurality of picture archiving and communication system workstations from a remote terminal using the web-based server.

A. Claims 5-10 and 14-18 are patentable under 35 U.S.C. § 103(a) in view of Zur (U.S. 6,178,225) and Kobata (U.S. 6,321,348) because there is no suggestion or motivation in the references or the ordinary level of skill in the art to combine Zur and Kobata.

The Applicant submits that claims 5-10 and 14-18 are distinguishable over Zur and Kobata for all of the reasons discussed in Section II of this Appeal Brief. The Applicant submits that there is no suggestion or motivation in the art or the references themselves to modify Zur with Kobata, as discussed above in Section II.A. One of ordinary skill in the medical image storage and analysis art would have had no motivation or suggestion at the time of invention to combine the demographic and compatibility analysis system of Kobata with the metering and billing system of Zur. Zur makes no mention of compatibility or system component analysis, and Kobata makes no mention of medical application or metering. Kobata makes no mention of a picture archiving and communication system. Zur makes minimal mention of use with a PACS, and makes no mention of remote monitoring or PACS workstation error analysis, or remote software installation. Additionally, such a system of Zur and Kobata would not have a reasonable expectation of success for the intended purpose recited in claims 5-10 and 14-18.

The Examiner asserts that because Zur broadly relates to images, could be used with a PACS, and has a network connection, it would be combined with the compatibility detection and consulting system of Kobata.⁶¹ The Applicant submits that such a combination would be an impermissible expansion of the ordinary level of skill in the art at the time of the invention. The Examiner has stated that no Official Notice has been taken, and no references have been cited by the Examiner to support that certain features were well known in the art at the time of invention. In attempting to combine these references, the Examiner has relied upon an impermissible hindsight analysis and has looked at the level of skill in the art in 2004 rather than at the time of invention at least 5 years prior. In combining Zur and Kobata, the Examiner has merely picked and chosen

among isolated, individual elements of assorted prior art references in an attempt to re-create the Applicant's claimed invention. There is no teaching or suggestion in these references to support their use in the particular claimed combination. The combination of different art found in Zur and Kobata is clearly untenable, and the Examiner's rejection should not be allowed to stand.

B. Claims 5-10 and 14-18 are patentable under 35 U.S.C. § 103(a) in view of Zur (U.S. 6,178,225) and Kobata (U.S. 6,321,348) because even a hypothetical combination of Zur with Kobata would not teach or suggest all of the limitations recited in claims 5-10 and 14-18.

The Applicant submits that claims 5-10 and 14-18 are distinguishable over Zur and Kobata for all of the reasons discussed in Sections II and III.A of this Appeal Brief. The Applicant submits that any hypothetical combination of these systems would produce some form of metering and billing system which allows a compatibility analysis or would provide a metering and billing system to charge users for demographic analysis and compatibility consulting services. Neither hypothetical system teaches or suggests the limitations recited in claims 5-10 and 14-18.

For example, the combination would not teach or suggest identifying an error occurring at one or more PACS workstations based on an error indicator retrieved from one or more files at one or more PACS workstations at a remote terminal in communication with a web-based server. The combination also would not teach or suggest directing updates of special-purpose medical imaging software from a remote terminal. These limitations are recited in independent claim 5 of the present application. Rather, Kobata identifies potential peripheral device installation problems based on expert consulting services or artificial intelligence analysis of demographic data on a personal computer in a general-purpose computing environment. Additionally, Kobata does not disclose a remote terminal, web-based server and PACS workstation, only a client and a server.

Similarly, the combination would not teach or suggest generating a remote signal at a remote terminal in response to an error occurring at a PACS workstation connected

⁶¹ Final Office Action mailed September 23, 2004, pages 12-13.

to a web-based server, retrieving data from one or more PACS workstations in response to the remote signal, and providing remote identification and correction of an error via the web-based server at one more PACS workstations by updating software stored on one or more PACS workstations. These limitations are recited in independent claim 14. Kobata does not disclose a method for updating multiple clients based on an error detected at one client. Rather, it downloads software to one specific client or refers the client to expert consulting services based on an installation compatibility problem detected by analyzing that client's particular demographic data.

The combination would also not teach or suggest the remote analysis of log data from each of a plurality of PACS workstations in communication with a web-based server to indicate an error at the plurality of PACS workstations and remote correction of the error at the plurality of PACS workstations from a remote terminal using the web-based server. These limitations are recited in independent claim 17. Kobata relies on demography data such as CPU power, disk space, and applications installed, not log data from a special-purpose application.

Because Zur in view of Kobata does not teach or suggest any of the limitations discussed above, let alone every limitation recited in claims 5, 14 and 17, the hypothetical combination of Zur and Kobata does not render obvious claims 5, 14 and 17, nor does it render obvious claims 6-10, 15-16 and 18, which depend from claims 5, 14 and 17, respectively.

CONCLUSION

For the foregoing reasons, claims 1-20 are distinguishable over the prior art of record. The Applicant has worked with the Examiner through requests for continued examination, telephonic interviews, and amendments to claims to reach agreement with the Examiner despite a lack of relevant prior art. The Examiner has been afforded the opportunity through multiple RCEs to search the prior art and find references which anticipate or render obvious the pending claims. The Examiner has been unable to identify any such references and has not taken Official Notice that any claimed features were well-known in the art at the time of the invention. Thus, the Applicant respectfully

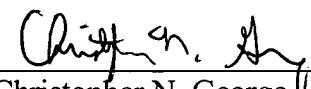
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requests a reversal of the Examiner's rejection and issuance of a patent on the present application.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to the deposit account of GTC, Account No. 070845.

Dated: March 18, 2005

Respectfully submitted,



Christopher N. George
Registration No. 51,728
Attorney for appellant

MCANDREWS, HELD & MALLOY, LTD.
500 West Madison Street, 34th Floor
Chicago, IL 60661
Telephone: (312) 775-8000
Facsimile: (312) 775-8100

APPENDIX

(37 C.F.R. § 1.192(c)(9))

The following claims are involved in this appeal:

1. A method for remotely enhancing a picture archiving and communication system, said method comprising:

establishing a network connection with a web-based server;

periodically providing software for installation to a plurality of picture archiving and communication system workstations in response to an error detected by at least one workstation;

reporting the error to the web-based server;

directing the web-based server to simultaneously install the software to the plurality of picture archiving and communication system workstations in communication with the web-based server; and

simultaneously installing software to the plurality of picture archiving and communication system workstations.

2. The method of claim 1 wherein said directing step comprises instructing the server to install at least one software update to the plurality of workstations.

3. The method of claim 1 wherein said establishing step comprises logging on to a web server and authenticating a user.

4. The method of claim 1 further comprising sending an indication message to the remote terminal to indicate whether the software installation was successful.

5. A method for remotely monitoring a picture archiving and communication system, said method comprising:

establishing a network connection with a web-based server from a remote terminal;

directing the web-based server to retrieve data from at least one file from at least one of a plurality of picture archiving and communication system workstations in communication with the web-based server, the data including a log containing an error indicator;

retrieving the data from the at least one file;

transmitting the data to a remote terminal;

identifying an error occurring at at least one of said plurality of picture archiving and communication system workstations based on said error indicator in said data; and

updating software stored on at least one of said plurality of picture archiving and communication system workstations to correct said error.

6. The method of claim 5 wherein said retrieving step comprises extracting the at least one file for analysis at the remote terminal.

7. The method of claim 6 wherein said extracting step comprises extracting at least one log file.

8. The method of claim 6 wherein said extracting step comprises extracting at least one image file.

9. The method of claim 5 wherein said directing step comprises directing a search of files for a predetermined message in at least one of the plurality of workstations, and said retrieving step comprises retrieving files that include said predetermined message.

10. The method of claim 9 wherein said directing step comprises directing a search of files for an error indicator in at least one of the plurality of workstations, and said retrieving step comprises retrieving files that include said error indicator.

11. An apparatus for remotely enhancing a picture archiving and communication system comprising:

a remote first terminal in communication with a web-based server via an Internet connection, said remote first terminal remotely monitoring a picture archiving and communication system workstation to generate a remote signal requesting installation of software in response to an error reported by the workstation;

a plurality of picture archiving and communication system workstations connected to said web-based server; and

said web-based server comprising an installer for simultaneously installing software to said plurality of picture archiving and communication system workstations responsive to said remote signal.

12. The apparatus of claim 11 wherein a first workstation generates the remote signal for instructing said web-based server to install software to said plurality of workstations.

13. The apparatus of claim 11 wherein said web-based server comprises an installer for simultaneously installing software updates for pre-existing software to said plurality of picture archiving and communication system workstations.

14. An apparatus for remotely monitoring a picture archiving and communication system comprising:

a remote first terminal in communication with a web-based server via a network connection, said remote first terminal comprising a remote signal generated in response to an error detected by a picture archiving and communication system workstation;

a plurality of picture archiving and communication system workstations connected to said web-based server; and

said web-based server comprising a data retriever for retrieving data from at least one of said plurality of picture archiving and communication system workstations responsive to said remote signal, said web-based server providing remote identification and correction of an error at at least one of said plurality of picture archiving and communication system workstations by updating software stored on at least one of said plurality of picture archiving and communication system workstations.

15. The apparatus of claim 14 wherein said web-based server comprises said data retriever for retrieving log files from at least one of said plurality of picture archiving and communication system workstations responsive to said remote signal.

16. The apparatus of claim 14 wherein said web-based server comprises said data retriever for retrieving image files from at least one of said plurality of picture archiving and communication system workstations responsive to said remote signal.

17. A method for remotely monitoring a picture archiving and communication system, said method comprising:

connecting to a web-based server on a network;

instructing the web-based server to extract log data from each of a plurality of picture archiving and communication system workstations in communication with the web-based server, wherein the log data indicates an error occurring at the plurality of picture archiving and communication system workstations;

transmitting the log data to a remote terminal for analysis of the error; and

remotely correcting the error at the plurality of picture archiving and communication system workstations from a remote terminal using the web-based server.

18. The method of claim 17, further comprising extracting at least one image file from at least one of the plurality of picture archiving and communication system workstations.

19. A method for remotely enhancing a picture archiving and communication system, said method comprising:

connecting to a web-based server from a remote terminal on the Internet;

instructing the web-based server to update pre-existing software on a plurality of picture archiving and communication system workstations in communication with the web-based server;

simultaneously updating said pre-existing software on the plurality of picture archiving and communication system workstations.

20. The method of claim 19, further comprising logging on to the web-based server and authenticating a user.